

## MOTOR TRANSPORT

## Rodding and Light Cabling Vehicle

1 **General.** This instruction describes the Rodding and Light Cabling Vehicle and its facilities.

2 **Chassis and Cab.** The vehicle comprises a standard 5 ton pay load chassis and has a gross moving weight of 9.5 tons with a maximum train weight ie inclusive of trailer, of 14.5 tons. Three line air braking is fitted for connection to a heavy trailer. The cab provides seating for the driver and two passengers and has a fold-away table fitted in front of the passengers' seat. The table must always be folded before the vehicle is driven.

3 **Body**

3.1 The coach built body comprises a light alloy framework with aluminium exterior panels. The roof is of translucent resin bonded glass fibre to give good illumination inside the vehicle during daylight hours. Artificial illumination is provided by 15 watt fluorescent lamps.

3.2 Two sets of racking are fitted, one on the left hand (nearside) and the other on the right hand (offside) side of the body. The left hand racking accommodates stores, tools and roadworks guarding equipment with special safe accommodation for reels of Drawrope No. 1. The right hand racking incorporates a Reel for Rods, Duct No. 3, a Machines, Rodding and Cabling No. 1H, two small ( $\frac{3}{8}$  in. bore hose) retractable air lines and one large ( $\frac{1}{2}$  in. bore hose) retractable air line. It also has accommodation for Ductmotors No. 1 and sections of duct. Grab rails are provided on each rack. The floor area between the two racks is kept clear for the accommodation of Reels, Hose Nos. 3 and 4 which are used in conjunction with Ductmotors No. 1.

3.3 A shutter is provided at the rear of the vehicle body. When closed it is fastened to the floor of the rear opening frame by a central hasp which can be secured by a Padlock 2 in.

3.4 Access to the body is obtained by portable steps which are held in position by hooks which engage in slots in the floor of the body.

3.5 **Welfare Unit.** A welfare unit is provided at the front end of the left hand racking. This unit has two drawers, a cupboard and a propane gas ring. The shelf carrying the gas ring is fitted with drain holes which must be kept clear and unobstructed. (See MOO23 for precautions to be observed in use.)

3.6 **Lockers.** Three external lockers are fitted. The one on the left hand side accommodates two standard propane cylinders and the one on the right hand side is used to store reinstatement material. A locker on the right hand side at the rear of the vehicle accommodates a Road Breaker, Pneumatic, with accessories, and a Pump, Submersible, Pneumatic with fold flat delivery hoses. A fourth locker is incorporated in the main body structure at the left hand side below the welfare unit. This locker accommodates the larger of the two air compressors fitted in the vehicle.

#### 4 Towing

4.1 Light and heavy towing hitches are fitted and facilities are available for extending three line air braking to heavy trailers.

4.2 Rear lights of light trailers having no stop lamps or direction indicators can be connected to a double pole SBC lampholder fitted to the underside of the body. Niphan plugs are fitted to the bottom cross member at the rear of the vehicle to provide a lighting connection for trailers having rear lights, stop lamps and direction indicators (5 pin for over run brakes, 7 pin for air pressure brakes).

4.3 Number plates for use on trailers, one oblong and one square, are provided. They are stowed in the cab behind the passengers' seat.

**5 Vehicle Engine.** The vehicle is powered by a diesel engine which also drives a hydraulic pump through a standard gear box power take-off.

**6 Emergency Engine Stop Control.** An emergency stop control is fitted at the left hand rear of the vehicle. Operation of the emergency stop will stop the vehicle engine and halt the operation of all equipment. The emergency stop is self locking and after operation must be reset manually before the vehicle engine can be re-started.

#### 7 Hydraulic System.

7.1 Four appliance control valves are fitted in the circuit, one each for the Machines, Rodding and Cabling No. 1(H), Winch, Hydraulic No. 2, and the two air compressors. Control valves for the rodding machine and winch are non-locking and will restore to the "Off" position if the operating handle is released. Control valves for the air compressors will remain in the operated position until restored manually.

7.2 The hydraulic reservoir is fitted on the left hand side of the vehicle and bears a metal plate giving details of the type of oil used in the system and the capacity of the reservoir. The reservoir filler cap can be locked by means of a Padlock 2 in. and should normally be kept locked except when necessary to remove the cap to add oil. The level of oil in the reservoir should be checked at weekly intervals.

7.3 When working, the temperature of the hydraulic oil reservoir should not be unbearable to the hand.

**8 Power Take-Off.** The power take-off engagement lever and an instruction plate giving details of the procedure for engaging the power take off are fitted in the vehicle cab. A 'Power take-off engaged' warning light with a yellow lens is fitted on the vehicle instrument panel.

**9 Vehicle Engine Speed.** The vehicle engine speed (rev/min) is indicated on a tachometer fitted to the instrument panel.

## 10 Air Compressors.

10.1 Two air compressors are fitted in the vehicle, one low pressure compressor for operating road breaking tools and the Pump, Submersible, Pneumatic and a high pressure compressor for operating Ductmotors.

10.2 The low pressure compressor will provide 60ft<sup>3</sup>/min, free air delivery (FAD), of air at a pressure of 100 lbf/in<sup>2</sup>. It is fitted in the locker below the welfare unit. The output from this compressor is piped to the large retractable air hose fitted at the rear of the RH racking.

10.3 The high pressure compressor will provide 18ft<sup>3</sup>/min (FAD) of air at a pressure of 150 lbf/in<sup>2</sup> and is fitted on the right hand side of the vehicle under the racking. The output from this compressor is piped to the two smaller retractable air hoses fitted at the rear of the right hand racking.

10.4 A pressure gauge fitted adjacent to the compressor control valves indicates the pressure of the air supply from each.

## 11 Machines, Rodding and Cabling No. 1, Hydraulic.

11.1 This machine is fitted at the rear of the right hand racking and incorporates its own control valve.

11.2 Operating instructions and details of construction are given in the handbook supplied with each machine.

## 12 Winch, Hydraulic No. 2.

12.1 This is a variable speed capstan type winch comprising two separate units, a capstan unit and a take-up reel drive unit. It will provide a line pull of 1000 lbf at a maximum rope speed of 100ft/min.

12.2 The capstan unit is fitted at the rear of the vehicle below floor level. It is attached to the rear end of the left hand chassis member with the capstan projecting.

12.3 The take-up reel drive unit is fitted inside the vehicle at the rear on the left hand side under the racking.

12.4 Both units are controlled by a single valve mounted adjacent to the capstan.

12.5 Four rope guiding sheaves are provided. An extensible sheave fitted at the rear of the left hand side racking guides the rope from the capstan to a second sheave fitted at the front end of the vehicle body and thence to the take-up reel. Two other sheaves are fitted to the bottom cross member at the rear of the vehicle chassis. These sheaves incorporate a facility for fitting a Guides, Rod, Flexible and either one can be used to guide the rope from the jointing chamber on to the capstan.

### 13 Retractable Air Lines

13.1 The two small,  $\frac{3}{8}$  in. bore hose, retractable air lines are for use with Reels, Hose Nos. 3 and 4 for operating Ductmotors No. 1. These air lines have self-sealing couplings and are automatically pressurised for use when the high pressure compressor is running.

13.2 The large,  $\frac{1}{2}$  in. bore hose, retractable air line is for use with Road Breakers, Pneumatic and Pumps, Submersible, Pneumatic. This line is not self-sealing and the gate valve controlling its supply from the compressor must be kept closed when the air line is not in use.

14 Pump, Submersible, Pneumatic. This pump will move water at the rate of 4,500 gal/hr at a delivery head of 30 ft. It is fitted with 25 ft (7.6m) of fold flat delivery hose and an additional 25 ft (7.6m) length of hose, with couplings, is provided.

15 Road Breaker, Pneumatic. The vehicle is equipped with one Road Breaker, Pneumatic and associated tools.

16 Faults. Any leaks of hydraulic oil or malfunction of any component should be referred for the immediate attention of the Mechanic-in-Charge/Workshop Supervisor.

17 Vehicle Tools. These consist of a vehicle jack, a starting handle and a wheel brace. All are stored in the vehicle cab.

18 Spare Wheel. Spare wheels for these vehicles will normally be held by the Mechanic-in-Charge/Workshop Supervisor and not carried on the vehicle.

19 Fire Extinguisher and First Aid Box. These are located in the vehicle cab.

20 Speed Limit. See D0022.

21 Paintwork. The outside of the vehicle has a synthetic enamel finish. The vehicle crew should not make any attempt to re-touch scratched or damaged parts. Work of this nature will be undertaken by the Mechanic-in-Charge/Workshop Supervisor when necessary or during periodic overhauls.

References:- C0015, C1041, D0022, M0023

(TDS.3.1) GENERAL, Responsibilities, D0055, D0097

LINES, Underground, F.3045  
STORES, Storekeepers Procedure, A0506

TOOLS AND TRANSPORT, Mechanical Aids, C1041, J1044

E N D